UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,557	07/16/2004	Ronan Garrec	25526US0PCT	5138

22850 7590 03/05/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
SELLMAN, CACHET I	
ART UNIT	**PAPER NUMBER**
1762	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/05/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/05/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/501,557	GARREC ET AL.	
	Examiner	Art Unit	
	Cachet I. Sellman	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement is made of the amendment filed by the applicant on 11/20/2006, in which claims 1-20 were cancelled and claims 21-29 were added. Claims 21-29 are currently pending in U.S. Application Serial No. 10/501,557.

Claim Objections

The objection to claim 19 of the previous office action is withdrawn due to applicant canceling the claim.

Claim Rejections - 35 USC § 112

The 35 USC 112 second paragraph rejection of claims 11-15 and 19 is withdrawn due to applicant canceling the claims.

Response to Arguments

Applicant's arguments with respect to claims 11-15 and 19 have been considered but are moot in view of the new ground(s) of rejection

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 21, and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire et al. (US 6103363) in view of Nakada et al. (JP 08302856) and Morgan (US 2383470).

Boire et al. teaches a process for applying a photocatalytic coating to a glass substrate in order to promote self-cleaning and which has an external surface that is hydrophilic and/or oleophilic (abstract and col. 3,lines 56-59). The glass substrate comprises a glazing unit comprising monolithic or laminated glass with a layer of TiO_2 (col. 6, lines 37-41, and col. 2,lines 40-67).

Boire et al. does not teach removing at least silicone pollution from the substrate using an electrical or a flame treatment as required by **claim 21**.

Nakada et al. teaches a glazing unit which is sealed using a silicone sealant material and a process for removing silicone oil of the sealant material from the glass substrate (coated with titanium oxide) so the sealing in only on the area to be sealed. The silicone is removed by irradiating the photo catalyst coated glass with sunrays, which decomposes (removes) the dirt (silicone oil) on the glass [0008-0010].

Morgan teaches a process for cleaning the surface of glass of contaminants or foreign particles by flame treatment because conventional techniques for cleaning such

as chemical cleaning are not successful in thoroughly cleaning the glass (pg. 1, lines 42 and pg. 2, lines 1-9).

It would have been obvious to one having ordinary skill in the are at the time the invention was made to modify the process of Boire et al. to include the silicone sealant of Nakada et al.. One would have been motivated to do so because both disclose processes of forming laminated glass used for building material that have antifouling properties and Boire et al. is absent on what is used to seal the glass together to form the laminate and Nakada et al. teaches silicone as an operable sealant therefore one would have a reasonable expectation of success in sealing the glass using the silicone sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Boire et al in view of Nakada et al. to include the contaminant removal process of Morgan. One would have been motivated to do so because both disclose processes for removing contaminants from a glass surface and Morgan further teaches that using a flame treatment is beneficial because it insures a thorough cleaning of the glass over previous treatments therefore one would have a reasonable expectation of success in thoroughly cleaning the glass using the flame treatment as taught by Morgan.

As taught by Morgan, flame treatment is used as required by **claim 24**. As statec above, the substrate is hydrophilic and oleophilic (col. 3, lines 56-60) as required by **claim 25**. Boire et al. teaches that the titanium oxide layer is of the crystalline nature, anatase and/or rutile (col. 8, lines 13-18) as required by **claim 26**. Boire et al. also teaches that the surface is textured (roughened) to enhance the wetting properties (col. 4,lines 42-49) as required by **claim 27**. Boire states that the glass can have a layer of silicon oxycarbide to serve as a barrier (col. 8, lines 55-57) as required by **claim 28**.

3. Claims 21 –23 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire et al. in view of Nakada et al. (JP 08302856) and Dunoyer (FR978448).

Boire et al. teaches a process for applying a photocatalytic coating to a glass substrate in order to promote self-cleaning and which has an external surface that is hydrophilic and/or oleophilic (abstract and col. 3,lines 56-59). The glass substrate comprises a glazing unit comprising monolithic or laminated glass with a layer of TiO_2 (col. 6, lines 37-41, and col. 2,lines 40-67).

Boire et al. does not teach removing at least silicone pollution from the substrate using an electrical or a flame treatment as required by **claim 21**.

Nakada et al. teaches a glazing unit which is sealed using a silicone sealant material and a process for removing silicone oil of the sealant material from the glass substrate (coated with titanium oxide) so the sealing in only on the area to be sealed. The silicone is removed by irradiating the photo catalyst coated glass with sunrays, which decomposes (removes) the dirt (silicone oil) on the glass [0008-0010].

Dunoyer teaches a process for cleaning the surface of glass of polluting layers by subjecting the glass to an electric discharge which cures the disadvantage of not thoroughly cleaning the glass. Dunoyer further teaches the glass can be rinsed after the treatment using a cleaning solution.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Boire et al. to include the silicone sealant of Nakada et al. One would have been motivated to do so because both disclose processes of forming laminated glass used for building material that have antifouling properties and Boire et al. is absent on what is used to seal the glass together to form the laminate and Nakada et al. teaches silicone as an operable sealant therefore one would have a reasonable expectation of success in sealing the glass using the silicone sealant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Boire et al in view of Nakada et al. to

include the contaminant removal process of Dunoyer. One would have been motivated to do so because both disclose processes for removing contaminants from a glass surface and Dunoyer further teaches that using a electrical treatment is beneficial because it insures a thorough cleaning of the glass over previous treatments therefore one would have a reasonable expectation of success in thoroughly cleaning the glass using the flame treatment as taught by Dunoyer.

The treatment is an electric field treatment as required by **claims 22 and 23**. Dunoyer teaches rinsing the substrate after treating as required by **claim 29**.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cachet I. Sellman whose telephone number is 571-272-0691. The examiner can normally be reached on Monday through Friday, 7:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cachet I Sellman
Examiner
Art Unit 1762

cis

William Phillip Fletcher III
Primary Examiner
Art Unit 1762